

What Is Claimed Is:

- 1        1. A method of simulating operation of a media device over a network,  
2 comprising:
  - 3                extracting data from one or more data sources in response to receiving
  - 4                commands from a first server, the first server communicatively
  - 5                coupled to the network;
  - 6                combining the commands with the data extracted to form an integrated
  - 7                presentation corresponding to an interface for the operation of the
  - 8                media device; and
  - 9                transferring the integrated presentation to the first server for display on a
  - 10               client coupled to the network.
- 1        2. The method according to Claim 1, wherein a second server receives the  
2 commands, the second server being web-hosted by the first server.
- 1        3. The method according to Claim 2, wherein the second server instantiates a  
2 plurality of objects for encapsulating functions associated with the operation of the media  
3 device, the objects comprising programmable interfaces for operating the media device.

- 1        4. The method according to Claim 3, wherein the operation of the media device is  
2        simulated using the programmable interfaces.
- 1        5. The method according to Claim 2, wherein one of the commands causes the  
2        first server to access the second server for receiving the commands.
- 1        6. The method according to Claim 1, wherein the integrated presentation is  
2        transferred in XML format.
- 1        7. The method according to Claim 1, wherein the data sources comprise  
2        databases, the media device, and online services.
- 1        8. The method according to Claim 1, wherein the data sources comprise  
2        broadcast programming guides in an electronic format.
- 1        9. The method according to Claim 1, wherein the network comprises the Internet.
- 1        10. The method according to Claim 1, wherein the media device is a digital video  
2        recorder.
- 1        11. The method according to Claim 1, wherein the interface is selected from a  
2        group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,  
3        Replay Shows, Replay Channels, Find Shows, and Manual Record.

1           12. The method according to Claim 1, wherein the client comprises a browser.

1           13. A method of operating a media device through a web-hosted application,  
2 comprising:

3                         accessing a first server to launch the web-hosted application, the web-  
4                         hosted application being capable of communicating with the media  
5                         device to extract data therefrom;  
6                         receiving one or more integrated presentations formed by the web-hosted  
7                         application and sent by the first server in response to accessing the  
8                         first server, each of the integrated presentations including the data  
9                         extracted to replicate a corresponding interface of the media  
10                         device;  
11                         selecting portions of the interface to initiate one or more commands to  
12                         operate the media device; and  
13                         transmitting the commands to the web-hosted application via the first  
14                         server.

1           14. The method according to Claim 13, further comprising:

2                         the web-hosted application transmitting the commands received to the  
3                         media device for operating the media device.

1           15. The method according to Claim 13, wherein the web-hosted application

2 instantiates a plurality of objects for encapsulating functions associated with operating  
3 the media device, wherein the objects comprise programmable interfaces for operating  
4 the media device.

1 16. The method according to Claim 15, further comprising operating the media  
2 device using the programmable interfaces.

1 17. The method according to Claim 13, wherein one of the commands causes the  
2 first server to access a second server, the web-hosted application running on the second  
3 server.

1 18. The method according to Claim 13, wherein the integrated presentation is  
2 transferred in XML format.

1 19. The method according to Claim 13, wherein the integrated presentations are  
2 formed by combining the data extracted with additional data received by the web-hosted  
3 application from one or more sources of data.

1 20. The method according to Claim 19, wherein the sources of data comprise  
2 databases and online services.

1 21. The method according to Claim 19, wherein the sources of data comprise  
2 broadcast programming guides in an electronic format.

1 22. The method according to Claim 13, wherein accessing the first

2 server comprises sending an http request over the Internet to the first server.

1           23. The method according to Claim 13, wherein the media device is selected  
2 from a group consisting of a digital video recorder, a personal digital assistant, a mobile  
3 telephone, and a pager.

1           24. The method according to Claim 13, wherein the interface is selected from a  
2 group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,  
3 Replay Shows, Replay Channels, Find Shows, and Manual Record.

1           25. The method according to Claim 13, wherein the data is extracted periodically.

1           26. The method according to Claim 13, wherein the data is extracted on-the-fly.

1           27. A method of remote control of at least one media device, comprising:  
2                         maintaining a local representation of pre-existing information and data  
3                         extracted from a plurality of data sources including the media  
4                         device;  
5                         forming an integrated presentation by combining the pre-existing  
6                         information with the data extracted;  
7                         transferring the integrated presentation to a network computing system for  
8                         display on a client in response to receiving an instruction from the  
9                         client;  
10                  receiving a command from the client in response to portions of the

11 integrated presentation being selected, the command representing  
12 an operation to be performed on the media device;  
13 updating the local representation with the command; and  
14 sending the command to the media device to perform the operation on the  
15 media device.

1 28. The method according to Claim 27, wherein the network computing system  
2 comprises at least one web server communicatively coupled to a network, the web server  
3 receiving and forwarding the integrated presentation to the client over the network.

1 29. The method according to Claim 28, wherein the network comprises the  
2 Internet.

1 30. The method according to Claim 27, wherein the data sources are selected  
2 from a group consisting of databases and online websites.

1 31. The method according to Claim 27, wherein the integrated presentation  
2 comprises a virtual representation of a user interface associated with the media device.

1 32. The method according to Claim 27, wherein maintaining the local  
2 representation comprises storing the pre-existing information and the data on a database.

1 33. The method according to Claim 27, further comprising:  
2 instantiating a plurality of objects for encapsulating functions associated

3                   with the operation of the media device, wherein the objects  
4                   comprise programmable interfaces for invoking the operation on  
5                   the media device.

1                 34. The method according to Claim 33, further comprising sending the command  
2                 to the media device using the programmable interfaces.

1                 35. The method according to Claim 27, wherein the integrated presentation is  
2                 transferred in XML format.

1                 36. The method according to Claim 27, wherein the data sources comprise  
2                 broadcast programming guides in an electronic format.

1                 37. The method according to Claim 27, wherein the media device comprises a  
2                 digital video recorder.

1                 38. The method according to Claim 27, wherein the integrated presentation is  
2                 selected from a group of interfaces consisting of a login interface, a Channel Guide, a  
3                 Replay Guide, Replay Shows, Replay Channels, Find Shows, and Manual Record.

1                 39. The method according to Claim 27, wherein the client comprises a browser.

1                 40. The method according to Claim 27, wherein the local representation is  
2                 maintained on a periodic basis.

1        41. The method according to Claim 27, wherein the local representation is  
2        maintained on-the-fly.

1        42. A system, comprising:  
2              a first subsystem having one or more media devices distributed in a load-  
3              balanced configuration;  
4              coupled to the first subsystem, a second subsystem maintaining a virtual  
5              representation of one or more user interfaces replicated from each  
6              of the media devices; and  
7              coupled to the second subsystem, a third subsystem displaying the virtual  
8              representation and simulating operation of the media devices based  
9              on portions of the user interfaces being selected.

1        43. The system according to Claim 42, wherein the user interfaces are replicated  
2        periodically.

1        44. The system according to Claim 42, wherein the third subsystem comprises at  
2        least one web server communicatively coupled to a network, the web server receiving and  
3        forwarding the virtual representation to a client for display over the network.

1        45. The system according to Claim 44, wherein the network comprises the  
2        Internet.

1       46. The system according to Claim 44, wherein the second subsystem comprises  
2       at least one database, said database storing the virtual representation.

1       47. The system according to Claim 46, wherein the second subsystem comprises  
2       a first server and a second server, the first server communicating with the media devices  
3       periodically, and the second server forwarding the virtual representation to the client via  
4       the a corresponding web server.

1       48. The method according to Claim 44, wherein the client comprises a browser.

1       49. The method according to Claim 42, wherein the media devices each  
2       comprises a digital video recorder.

1       50. The method according to Claim 42, wherein the interfaces are selected from a  
2       group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,  
3       Replay Shows, Replay Channels, Find Shows, and Manual Record.

1       51. A computer program product for simulating operation of a media device over

2       a network, the computer program product stored on a computer readable medium, and  
3       adapted to perform operations, comprising:

4                 extracting data from one or more data sources in response to receiving  
5                 commands from a first server, the first server communicatively  
6                 coupled to the network;

7 combining the commands with the data extracted to form an integrated  
8 presentation corresponding to an interface for the operation of the  
9 media device; and  
10 transferring the integrated presentation to the first server for display on a  
11 client coupled to the network.

1 52. A computer program product for operating a media device through a web-  
2 hosted application, the computer program product stored on a computer readable  
3 medium, and adapted to perform operations, comprising:  
4 accessing a first server to launch the web-hosted application, the web-  
5 hosted application being capable of communicating with the media  
6 device to extract data therefrom;  
7 receiving one or more integrated presentations formed by the web-hosted  
8 application and sent by the first server in response to accessing the  
9 first server, each of the integrated presentations including the data  
10 extracted to replicate a corresponding interface of the media  
11 device;  
12 selecting portions of the interface to initiate one or more commands to  
13 operate the media device; and  
14 transmitting the commands to the web-hosted application via the first  
15 server.

1 53. A computer program product for remote control of at least one media device,

2 the computer program product stored on a computer readable medium, and adapted to  
3 perform operations, comprising:  
4 maintaining a local representation of pre-existing information and data  
5 extracted from a plurality of data sources including the media  
6 device;  
7 forming an integrated presentation by combining the pre-existing  
8 information with the data extracted;  
9 transferring the integrated presentation to a network computing system for  
10 display on a client in response to receiving an instruction from the  
11 client;  
12 receiving a command from the client in response to portions of the  
13 integrated presentation being selected, the command representing  
14 an operation to be performed on the media device;  
15 updating the local representation with the command; and  
16 sending the command to the media device for performing the operation on  
17 the media device.

1 54. A computer-implemented method for providing control input to a media-  
2 based device through a web hosted application, comprising:  
3 accessing a first server from at least one client browser, the first server  
4 executing the web hosted application;  
5 the web hosted application accessing a database to display on the browser

6 user interface information received from the media-based device ;  
7 receiving a user instruction to change the user interface information; and  
8 the first server sending the user instruction to the web hosted application  
9 database for archival and transfer to the media-based device.